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## A NATURALIST'S RAMBLES IN CEYLON.

BY H. HENSOLDT.<sup>1</sup>

ABOUT fourteen years ago—it was in October, 1875—when I was a student at Giessen, a small but well-known university town in Germany, a friend, and for awhile fellow-student, Dr. Ferdinand Goldschmied, was preparing for a voyage to the distant island of Ceylon. Dr. Goldschmied was a young man of unusual attainments, an enthusiast, a lover of science for its own sake,—not one of those who look upon science as a sort of trade, which they follow for the sake of what it is likely to bring them in the shape of money or fame. He took an interest in every department of science, but his favorite subjects were ethnology, oriental languages, and the ancient civilization of the East.

A year or two previous to this German orientalists had been greatly excited over the publication (by a Leipzig professor) of a little work on ruined cities in southern India, Ceylon, and several of the islands of the Malay archipelago, such as Java, in which it was attempted to prove that long before the Aryan invasion—at a time so remote that neither history nor tradition has preserved the slightest trace of it—these countries were densely inhabited by a race of people possessed of a high degree of civilization, as evinced by the splendor of their cities, still imposing in their ruins, by their enterprise and skill in constructing reservoirs, tanks, canals, highways, etc., rivaling in this respect the most celebrated achievements of modern engineering, but a race which in language, customs, architecture, and so forth, was totally different from the present inhabitants of these countries.

Dr. Goldschmied was profoundly impressed with this work. Here was an entirely new field for research, a field practically untrodden, and promising glorious revelations; here perhaps lay buried some of the most important secrets of the past (he was one of the believers in the vast antiquity of the human race), but a field accessible only to one who could personally go and

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explore it. And so, although his means were slender, and his constitution none of the best, he resolved to set out on what may be truly termed a voyage of discovery, prepared for years of toil and travel in the tropics of the East, and the island of Ceylon was the country he intended to explore in the first instance.

When Dr. Goldschmied first asked me to accompany him, I treated the matter as a joke, for nothing, I thought, could be more foolish for one like me, still engaged in study and with a particular career sketched out for him, than to embark in such an enterprise. But I began to reflect over the proposal, and the more I reflected the more attractive it became, the more fascinating, until it grew perfectly irresistible, and to the surprise of many friends, and against the advice of near relatives, who predicted dire calamities, I determined to go with the young explorer.

More than thirteen years have elapsed since then, and I cannot say that I have once looked with regret upon that resolution. It was a mistake in some respects; it drew me away from what looked like a promising career at home, and flung me upon the very high seas of life; it brought in its train many troubles and disappointments which I would not have encountered had I remained in the fatherland, but those two years of Eastern travel taught me a number of invaluable lessons. It opened my eyes to things which I would never have understood had I stayed at home,—things of surpassing interest and beauty; it afforded me an insight into the mysteries of an almost unknown world, an insight into some departments of natural history which no amount of book-study could have given me, even if I had mastered whole libraries of science; it enlarged my horizon, and gave me a totally different idea of this queer world in which we live: indeed I may say that I shall never regret that voyage to Ceylon.

Now I do not here propose to give the details of this voyage in a sort of diary-fashion. I presume that the reader does not care over-much for an account of mere incidents of travel; what I desire is to tell him something about Ceylon, about my impressions of that island, of what I saw and observed there during a two years' residence, and I shall drop the style of personal narrative as much as possible, and only revert to it when absolutely

necessary. But a few words on the voyage out may not be amiss here. We left Germany on November 12th, 1875, starting from Frankfort, and traveling through Southern Germany, a part of Switzerland, France and Italy to Genoa, on the Mediterranean. This was *via* Geneva and the great Mont Cenis tunnel. Owing to an unfortunate delay of nearly a day at Turin we managed to miss a certain steamer of the Rubattino line, with which we had intended to sail, and as we would have had to wait more than fourteen days for another, we left Genoa, within two hours after our arrival, for Marseilles, where we secured berths on board the *Anadyr*, one of the French mail-steamers, of the Messageries Maritimes, which go to China, but touch at Ceylon and Singapore. During the passage through the Mediterranean we had the opportunity of seeing no less than three volcanoes, viz., Mt. Vesuvius, at Naples (where the steamer called for additional mail and passengers), Mt. Etna, on Sicily, and Stromboli, that singular little volcano—one of the Lipari islands—which rises abruptly from the waters, and which we passed within a few hundred yards distance. The Suez canal struck me as singularly narrow; so narrow indeed it is that two moderate-sized steamers cannot safely pass one another, and that was the reason why it took our steamer nearly two days to go through (the canal is only some eighty miles long.) Whenever a steamer was sighted or signaled coming the other way, one of the vessels had to turn into one of the basins which are cut into the sides of the canal, at intervals of about two miles, and this takes a great deal of time, so that a ship may take three days and longer in going through that canal. The voyage from Suez to Aden, through the Red Sea, which took about six days, I still hold in lively remembrance. The heat was something terrible, and there was no escape from it; a young Frenchman died on board with sunstroke. Dr. Goldschmied and I were the only Germans on board, the majority of the passengers being Frenchmen, bound for Saigon on the coast of Annam, and the rest Spaniards, going to Manilla.

We landed in Ceylon on December 9th, exactly three weeks after our departure from Marseilles. So much of the voyage. Dr. Goldschmied's mission, I am sorry to relate,—the great task

which he had set himself of unraveling the mysteries of a forgotten past,—was not accomplished; he died of jungle fever two months after our arrival at Anuradhapura, in the wilds of northern Ceylon. Of this Anuradhapura I shall have occasion to say more anon. It is the most remarkable labyrinth of ruins yet discovered on the island, and is now believed to have been the capital in that very remote past. The ruins, now completely surrounded and partly covered by the jungle, extend over an area of many square miles, and were then as now practically unexplored, though a number of coffee-planters, English officers, and other Europeans residing on the island had visited them,—more, I dare say, to gratify curiosity, and for the sake of the sport that could be had in the hunting of elk and elephants on the road, than to carry on systematic explorations. This region is now exceedingly unhealthy, like most of the low-lying districts of Ceylon, and so it happened that shortly after our arrival Dr. Goldschmied, and two young Englishmen who had joined us at Colombo “to see the fun,” as they expressed it, were attacked with dysentery and jungle fever, the two most dreaded diseases to Europeans on the island. The Tamil coolies we had with us and, strange to say, my humble self, remained in good health, but poor Goldschmied died after about ten days of dreadful suffering. Had he lived, I am firmly persuaded that he would have become one of the most famous of men; he had all the elements of a true scientist, and though young was a profound Sanscrit scholar. He would have developed into another Max Müller; in fact, would have outrivaled that great orientalist and philosopher.

I did not continue Goldschmied's explorations. I had not the necessary preliminary knowledge to enable me to attempt such a task; my studies and tastes lay in other directions. I was interested in geology, mineralogy, in zoölogy, in botany,—in short, in natural history, and I remained for two years in Ceylon, gathering such information as I could, making collections, and observing things generally to the best of my ability. I traveled from the extreme north to the extreme south of the island, and from east to west, in all sorts of directions; spent months in unhealthy, swampy regions on the coast and in the interior;

months in the lovely hills and valleys of the central highlands; in towns, villages, on coffee plantations; in remote hamlets among the natives of the backwoods on the gem-rivers: indeed, there is hardly a spot of interest on that island which I did not visit.

And now I will endeavor to give an account—a very condensed account—of some of the things which I saw and observed there. A few preliminary remarks on the island in a general sense may be here of value.

The Island of Ceylon was known already to the ancients, and we find it frequently alluded to, under the name of Taprobane, by Greek and Roman writers. To the Arabs it was known as Lanka and Serendib, and under this latter name it is mentioned in the "Arabian Nights" as the scene of some of Sindbad the Sailor's remarkable adventures. Some modern investigators have asserted that Ceylon is identical with the land of Ophir, whence Solomon obtained his gold, precious stones, and ivory; but as this very land of Ophir has already been searched for in various parts of Africa, on the Island of Madagascar, and even Sumatra, I only mention this as a curiosity. According to a tradition still current in the East Ceylon was the original seat of paradise. The "*Vajasanga-Sanhita*," one of the sacred books of the Brahmins,—a collection of Sanscrit myths, the age of which Max Müller, the greatest Sanscrit scholar and orientalist of the present, estimates at something like 4,500 years,—contains a legend quite similar to the Bible tradition of paradise, a legend which in my opinion has served as original to the latter. Even the names are almost identical: a first pair of human beings, Adiah (Adam) and Evana (Eve) were created by Brahma and placed in the Paradise, which was Lanka, the Island of Ceylon. They were of gigantic size, says the Sanscrit legend. For some offense they were driven out of paradise; Adiah, on his flight to the mainland of Asia, placed his left foot on a mountain-top in Ceylon, while he planted the right, with a single step, near Markuna in Siam, a distance of about 1,500 miles.

Now in the southwestern part of the island, about fifty miles from the coast, and isolated from the central range, the so-called Highlands of Ceylon, there rises a singular mountain, a very

symmetrical cone — yet not of volcanic origin — about 7,000 feet high, which has been known to the Singhalese (the natives of Ceylon) from time immemorial as “Adiah-Ruah,” or Adam’s mountain, and which is recorded on every map of Ceylon as Adam’s Peak. On the summit of this mountain is a flat piece of rock, garnetiferous gneiss, on which is to be seen the distinct impression of a gigantic foot. This is said to be Adam’s foot-print, and the Buddhists of Ceylon, as well as the Brahmins of India, the Tamils, and even the Mahomedans there are vying in the homage which they pay to this sacred relic. A low wall has been built around the “foot-print,” and a purple awning, supported by wooden pillars, keeps off the rain, while a number of Buddhist priests are engaged in pious ceremonies, and processions of pilgrims from all parts of Ceylon constantly arrive and depart. I made a point of visiting that celebrated mountain top, and, of course, recognized at a glance that Adam’s foot-print was a fraud, and a very big one. It was artificially cut or chiseled into the rock, and, moreover, by a very unskilled person, who had not even omitted to provide *nails* for the toes, notwithstanding the fact that a mere foot-print could not possibly show anything of the kind. Besides, the length of the imprint was in no proportion to that of the enormous stride, for although the foot-print was about 65 inches long, yet for such a stride it ought to have had a length of at least 300 miles. But faith, which as we know is capable of moving mountains, apparently causes the pilgrims to find the looks and dimensions of Adam’s foot-print very natural and reasonable. I, for my part, took great care not to appear by looks or questions as if doubting the genuineness of the relic, and even considered it wise to leave a small present for the temple.

The climate of Ceylon is, of course, essentially tropical. From the coast to a distance of about 30 miles into the interior the island is flat and covered with forest and jungle — the latter a dense and thorny mass of vegetation, almost impenetrable to man, and affording shelter to innumerable wild animals, snakes, birds and insects. The tropical forest, on the other hand, is often quite free from underwood. The entire coast is surrounded by a

seam of cocoa-nut palms, which appear to thrive best in the sandy coastal belt, but they are also abundant in the interior, and I have found them even high in the mountains.

The Portuguese were the first Europeans who settled on the island, and for several centuries only the flat coastal region was known to them, as no white man dared penetrate to the mountain country of the interior, which was inhabited by a bold and war-like race, with an ancient and highly-developed civilization. The natives of the coast were evidently only degenerate or effeminate descendants of this mountain race, and very little reliable information did the Portuguese obtain as to the state of things in the interior. Only now and then the natives would tell them of the splendor of the capital, Kandy, situated high in the mountains, the very existence of which was long regarded as a fable. In Kandy an ancient dynasty of kings was said to rule over the noble race of the Singhalese, but woe to the stranger who dared approach its walls. No Portuguese in those days saw the interior of Ceylon, and even the Dutch, who subsequently held the island for a hundred years, never succeeded in penetrating to Kandy. It was only about 80 years ago that the English, who took the island from the Dutch during the Napoleonic war, at the beginning of this century, managed to capture that remarkable town, and thus solve the riddle of centuries.

The present population of Ceylon is about two millions, but the island would be capable of supporting more than ten times that number of people. At least four-fifths of this populace inhabits the coastal region, but only as far as the cocoa-nut trees go, viz., from three to six miles into the interior. Thus the stranger, landing for the first time in Ceylon, and seeing the busy life along the coast, the innumerable huts of the natives in the shade of the giant palms, villages miles long, extending almost uninterruptedly along the entire southwestern coast, from Point de Galle to Colombo — a distance of 75 miles — is apt to consider Ceylon one of the most densely inhabited countries in the world. But if he travels in a straight line to the interior, the scene changes with surprising suddenness, and after proceeding



a few miles he either finds himself in the dense jungle or the solitude of the tropical forest.

More than eighty per cent. of the population of Ceylon consist of the Singhalese, a very remarkable and interesting race, which has resided on that island for at least 3000 years, but probably much longer. The Singhalese differ in many respects from the inhabitants of the continent of India, especially from the Hindoos, with whom they have very little in common. While the average Hindoo is small, delicate, and by no means distinguished for courage, the Singhalese is tall, muscular, extremely well-proportioned, and, moreover, bold and intrepid. Only in the fine antique cast of the features do these two races resemble each other and betray a common origin. It is hardly necessary to remind the reader that the inhabitants of India are not negroes, although the English merchants and officials very brutally and indelicately call them niggers, but a nobly-formed and highly developed race with entirely Caucasian features, so that, except for the difference in color and dress, it would be impossible to distinguish them from Europeans. The Singhalese, as well as the Hindoos, have, on an average, beautiful and expressive faces, well-proportioned bodies, and surprisingly small hands and feet; it is rare to find a downright ugly specimen among them. They are Aryans, a branch of that great Indo-Germanic race from which, as modern ethnology and comparative philology have clearly shown, most of the European races are derived. Sanscrit, that wonderful language of the ancient Hindoos, which has been a dead language for more than 3000 years, holds the key to many a puzzling mystery. In that language—embalmed, as it were, like mummies in an Egyptian tomb, and shrouded in mystery—lay the histories of the origin of numberless races, including those from which we have sprung, till modern philologists began to pierce the gloom, and a Max Müller arose and threw the electric beam of his genius into the ancient manuscripts of the Brahmins, into the *Rig-Veda* and *Ramayana*.

The Singhalese have been Buddhists for the last two thousand years, for the teachings of the great Hindoo philosopher were generally accepted by the people already about 500 years before

our era, and the island is even now regarded as the headquarters of Buddhism. Indeed, Ceylon may be called the Palestine of the Buddhists; it is held in the same esteem by the Buddhist world in which Jerusalem was held in Europe at the time of the crusades. To explain this, I must relate a curious tradition. According to the Pali manuscripts, the sacred books of the Buddhists, which are older and at least as reliable as our bible, Buddha came personally to Ceylon about 550 B. C., and preached his new creed, which was received with the greatest enthusiasm, and began to spread with surprising quickness. He had twelve followers or disciples with him. The story of the twelve apostles of Christ is evidently borrowed from the much older Buddha tradition, yet is even here nothing new, but an astronomical allegory, the origin of which must be sought in remotest antiquity. By the twelve followers of Buddha, as well as the twelve disciples of Christ, are meant the twelve signs of the zodiac, which were known already to the ancient Egyptians, Assyrians and Chaldeans. The story of Christ, there cannot be the shadow of a doubt, is an allegory; Christ representing the sun which, rising in the sign of Virgo (the virgin), proceeds higher and higher, till it crosses the highest meridian (whence the origin of the cross), and then, gradually sinking, brings summer to another world (descent into Hades), but ultimately again rises in renewed splendor (resurrection from the dead). These astronomical facts some oriental philosopher tried to interpret to the benighted and unreasoning multitude, and thus once more resorted to the story of a semi-divinity with twelve disciples, which, as we know, is of far more ancient date. Even long after Buddha<sup>2</sup> and Christ, we have again the story of the mythical King Arthur and his twelve knights of the round table, and of Charlemagne with his twelve paladines. Of course we know Charlemagne to be an historical character, but probably so were King Arthur, Christ and Buddha, still that they should all be accompanied by twelve is very significant and points to the same eastern source.

Now Buddha, when he felt his end approaching, commanded his disciples to erect a large funeral-pyre and cremate his body,

<sup>2</sup> Buddha, like Christ, was born of a "virgin," viz., the virgin Maya.

but afterwards they should carefully search the ashes, in which they would find some relic of him, which they were to preserve and treasure as the most sacred thing on earth. Whatever nation had possession of this relic would prosper to the end of time. Buddha's body was faithfully cremated by the twelve, and when they searched the ashes they found nothing but a *tooth*, a single tooth, as all that was left of him. This tooth of Buddha, as Singhalese history shows, has been preserved for more than two thousand years at Kandy, the ancient capitol of the Singhalese Kings, and has been worshipped as something more than sacred. A magnificent temple, the "Maligawa Dalada" (temple of the tooth), was specially erected, which is still one of the wonders of the island. I have often visited this temple during my stay at Kandy, and was always treated with great politeness and kindness by the Buddhist priests. A broad marble stair leads to a kind of raised platform, in front of the temple, whence several passages lead to the interior of the latter. The central one terminates at a curious round tower in which, behind a strong iron grating, is to be seen a miniature Buddhist pagoda, about three feet high and made of gold. In this Buddha's tooth is preserved. Since 1820 no human eye had seen it, for it may only be exposed once every hundred years, except when some great calamity is to be averted,—for instance in times of great drought or pestilence. Then it is brought out and exposed with great pomp and circumstance in front of the temple, and the evil, of course, speedily vanishes. A kind of altar in front of the iron grating is covered day and night with beautiful red Mogra blossoms, which are mostly brought by women as a sacrifice.

Two years previous to my arrival in Ceylon the duke of Edinburgh visited the island, and it was then vainly attempted to induce the chief priest of the temple to show the tooth as a curiosity, but he indignantly refused to expose so sacred an object to the profane gaze of even a duke of Edinburgh. While I was in Kandy, in March, 1876, it so happened that the Prince of Wales came to Ceylon. He had been sent out on a voyage to India, as a matter of policy, by the government, to show himself among the natives and make the English royal house more popu-

lar, as an offset against Russian intrigues. He was received with great pomp at Kandy, and this time the governor of Ceylon, Sir William Gregory, succeeded in getting the head priest to exhibit the tooth of Buddha; thus I also had the rare opportunity of casting a look upon that famous relic.

It was on a Sunday morning, and the news that the tooth of Buddha was to be publicly exposed must have traveled with lightning speed all over Ceylon, for the night before the day in question the large square in front of the temple was crowded with Singhalese, Tamils, and half-castes, who remained there, patiently waiting, all through the night. At about ten o'clock in the forenoon the Prince of Wales appeared with his brilliant suite of Europeans<sup>3</sup> and native chiefs, and ascended the marble stairs in front of the temple. On the platform stood a large ebony table, curiously carved, and covered with a yellow silken cloth. After a few minutes spent in waiting, there issued from the chief portal, slowly and solemnly, a procession of Buddhist priests, with their shaven skulls and long yellow robes. One of them carried a rectangular box, about 15 inches long, and 7 or 8 inches broad, made of gold, and set all around with uncut rubies of considerable size, which he placed upon the table. The chief priest opened it with a small key, and took out of it another box, which was ornamented with the largest, and, perhaps, the finest pearls found in former centuries on the Ceylon coast. In this was another still smaller box, covered with a profusion of uncut gems,—sapphires, rubies, emeralds, etc.,—and in this was an immense sapphire,<sup>4</sup> hollowed out like a cup, in which, upon a golden lotus-leaf, rested the tooth of Buddha. The moment the relic was exposed one of the priests made a sign to the people, and the whole dense crowd sank to the dust in reverence; no Singhalese dared to raise his head to gaze on that sacred object. As for the Prince of Wales and the rest of the assembled Europeans, it was

<sup>3</sup> Among those who accompanied the Prince of Wales on his tour were the Duke of Sutherland, Mr. Russell of the *Times*, and the Russian painter, Verestchagin.

<sup>4</sup> Tradition has it that this marvelous gem was found by a "Rhodia" (Singhalese out-cast) in a little mountain creek, at Morowe Korle, not far from Adam's Peak. It is of the opaque, asteriated variety, known as "star-sapphire," which, if suitably cut—en cabochon—shows in the sunlight a beautiful, many-rayed star.

difficult for them to repress their mirth. I stood among a number of coffee-planters, not more than five yards from the relic, thus having as good an opportunity of inspecting it as I could wish for under the circumstances. No one—not even the Prince—was allowed to touch the tooth, or to approach it very close. The worthy Buddha must have had a wonderful set of teeth when he was among the living. The specimen here represented was at least five inches long, and was, of course, no human tooth at all, but the side tusk of a pig,—probably a wild boar,—somewhat yellow and discolored from age, like Siberian ivory. That the priests should have had the courage, or rather impudence, to bamboozle the benighted people with an ordinary pig's tusk, by representing it as a part of Buddha's masticating apparatus, and thus lead them by the nose for more than two thousand years, struck me as very singular; but it is really in no way different or worse than the swindle carried on even at the present day in numerous cathedrals and monasteries of Europe, where nails from the true cross, tears which Christ wept, pieces of Jacob's ladder, and, in one Bavarian cloister,<sup>5</sup> actually a bottle full of that darkness which came over Egypt (an ordinary brandy-flask, smoked inside with lamp-black), are exhibited and worshipped by superstitious and degraded multitudes.

Now with regard to this tooth of Buddha, I have my own special theory. I do believe that a real, human tooth,—and possibly of Buddha, who, there can be very little doubt, was an historical character,—once existed in that temple, but became lost. In the "Mahawanso," the great historical record of the Singhalese, we read that the Tamils of the Malabar coast of India, about three hundred years before our era, made war upon the Singhalese, ravaged the island, and carried the tooth in triumph to India. But the Singhalese, burning for revenge, equipped a fleet, and a few years later invaded the Tamil country, never resting till they had recovered the precious masticator and brought it back to the temple at Kandy. This is stated to have actually happened twice, for the tooth was held in great esteem on account of its supposed virtues, and neighboring races were anxious to get hold

<sup>5</sup> The monastery of Banz, near Bamberg, in North Bavaria.

of it. Now I believe that in these wars and troubles the original tooth was lost, and that the priest substituted another, and, moreover, one of more respectable dimensions, which could be plainly seen from a distance, and which it was not so easy to lose.

Of course all this has nothing to do with the Buddhist religion. That religion is a grand and noble one,—a religion of tolerance and humanity, superior in many respects to Christianity. It forbids the destruction of life in any form, holding that every creature, down to the most despised insect, is in a sense sacred, and has as great a right to exist as man. Therefore the orthodox Buddhist carefully avoids the killing or molesting of animals; he will not even hurt a scorpion or venomous serpent, and is thus compelled to live entirely on vegetable food, chiefly rice. Many will not even drink milk, for fear of depriving the calf of its necessary nourishment, and the coffee-planters of Ceylon are obliged to hire Tamils as cooks, for no Singhalese will boil an egg, as it involves the destruction of the life within. Another of the reasons why they do not kill animals is because they believe in the transmigration of souls. They do not believe in a heaven such as the Christian pictures it, viz., a region of eternal bliss, or its opposite, a place of torment. The Buddhist philosophy is that a state of perpetual happiness is absolutely impossible; happiness ceases to be happiness the moment it takes the character of constancy. We are no longer happy when we have obtained what we were wanting, and, for similar reasons, a state of eternal misery is unthinkable. The only *possible* state of eternal bliss is the "Nirvana," the great culminating-point of Buddhism. This Nirvana is a state of indifference: the soul, freed from the body, feels neither pain nor joy, is oblivious of everything—not aware of its existence even—and to enter the oblivion of Nirvana is the chief aim of every Buddhist. The great world-soul, which gave us all our being, takes us back into its mysterious night. But to become worthy of Nirvana the Buddhist must lead a virtuous life, otherwise his soul after death, instead of going to Nirvana, enters another body, is born again, and compelled to face anew all the troubles and disappointments of life. This migration may continue for

centuries, or for millions of years, till the necessary degree of perfection is reached. Thus life itself, far from being an advantage, is looked upon as a state of suffering, and, even under the most favorable circumstances, as something neither to be envied nor desired.

I have found the Buddhist priests in Ceylon an exceedingly kind and worthy set of men. They live in the strictest celibacy, and in the most frugal and unpretentious manner. They are forbidden to own property, and must obtain their food by begging. In the Singhalese villages one may therefore see the priest every day with his begging-bowl, a cocoanut shell, collecting rice from house to house. The command is that nothing must be stored up, but every meal has to be specially begged for, and by means of this excellent provision the accumulation of wealth in monasteries, with all its corrupting concomitants, is successfully prevented. The priests dress in long yellow robes (yellow being the sacred color), with the right arm hanging out naked, and the left concealed within the folds of the garment. They go barefooted, bare-headed and closely shaven. I once asked an old priest for the origin of this custom of keeping their heads shaved. His answer was very remarkable: "Sahib," he said, "we follow in this, as in everything else, the example of our great master (Buddha). If we were to let our hair grow, we might occasionally be tempted to molest or kill certain small insects which, as you may have observed, are not of rare occurrence among, or rather *on*, the natives of this country. To avoid this we go shaved." Now the tonsure of the Roman Catholic clergy, along with many other rites and ceremonies of Catholicism, can be easily and unmistakably traced back to Buddhism whence they are derived, though I am somewhat doubtful as to whether Catholic priests will feel much flattered upon learning that the tonsure was merely inaugurated for entomological reasons, viz., in the sole and exclusive interest of parasites.

Looking at the position of Ceylon on the map, one would naturally conclude that the island was once connected with the mainland of India. Such was indeed the opinion held by geologists till comparatively recent years. It was taken for granted

that Ceylon had been separated from the peninsula either through the agency of currents or partial submersion. But modern investigations have disproved this, and it is now tolerably certain that Ceylon was never connected with India, but is one of the few remaining vestiges of a huge continent which stretched in almost boundless expansion to the south, far beyond the equator into the distant regions of the Pacific. The geological features of Ceylon are very unlike those of Southern India; the configuration of the mountains, the stratification of the rocks and their geological ages are quite different. In Ceylon we have a mountain region, rising more or less abruptly from the lowlands, and composed almost entirely of metamorphic rocks, chiefly gneisses, schists and slates, resting on an ancient granite. The formation is essentially Archæan: there is an almost total absence of any of the fossiliferous strata of the more recent periods, and an entire absence of Tertiary rocks. The only limestone found is an ancient dolomite of crystalline structure, in which every trace of organic remains—if ever existing—has been obliterated. Now most of the continent of Southern India consists of *recent* rocks, and it would seem that at the commencement of the Tertiary period the greater part of the peninsula was still covered by the sea, but that in the south a great continent extended eastward and westward, connecting Malacca with Arabia. The Himalaya range then only existed as a chain of islands, and did not, till a much later age, become elevated to its present proportions, a change which took place during the same revolution that raised the great plains of Siberia and Tartary. While these gigantic land masses slowly rose from the ocean depths the huge continent between the tropics underwent a simultaneous depression. This continent, in all probability, once connected the distant islands of Ceylon, Sumatra and Madagascar.

In Ceylon we find about 38 species of birds which are unknown in continental India, but these very birds occur in Sumatra, Borneo and others of the Sunda Islands. The insects of Ceylon are more closely related to those of the Malay Archipelago than to those of India. The elephant of Ceylon is *not* identical with that of India, but presents characteristics which are also pos-



sessed by that of Sumatra. The first to point this out was Prince Lucien Bonaparte (Proc. Zool. Soc. London, 1849), and Prof. Schlegel, of the University of Leyden, has since confirmed the identity of the Ceylon elephant with that found in the Lampongs of Sumatra. According to a Singhalese tradition, Ceylon, in a very remote past, formed part of a huge continent which connected Africa with China.

The precious stones, for which Ceylon has been celebrated from time immemorial, are found in the sand and gravel of the rivers. Most of these rivers—and Ceylon possesses quite a number of them—have their source in the central mountain district. The gems occur in a natural state as constituents of the garnetiferous gneiss, which is prominently developed in Adam's Peak, Newera Ellia, and neighboring points. The gradual disintegration of these gem-bearing masses, through aqueous and atmospheric agencies, leads to the freeing of the gems, which are washed out and precipitated along with other detritus by the mountain torrents during heavy rains, thus finding their way into the various river-beds, in which they roll for miles, and are gradually worn off or smoothed into roundish pebbles. The most celebrated of these gem-rivers is the Kalu-Ganga, which has its source near Adam's Peak, and flows into the sea about midway between Point de Galle and Colombo. On this river, and about twenty miles distant from Adam's Peak, is the ancient town, or Singhalese village, of Ratnapoora (literally, "the city of rubies.") Here is the headquarters of the Ceylon gem trade, so far as the native business is concerned; here gems have been dug, or washed out of the river mud for two thousand years, and here they are still found in the same profusion. The river in olden times appears to have been much broader, extending for more than a quarter of a mile beyond either of its present shores, and anyone digging within that region to a depth of six or seven feet comes to the so-called "gem gravel," viz., the ancient river-bed, in which are found rubies, sapphires, topazes, cats-eyes, garnets, cinnamon-stones,—in fact almost every known variety of gems except the diamond, which, so far as I know, has never yet been found on the island.

The desire for precious stones is very intense in the East, chiefly on account of their supposed inherent virtues. They are worn as charms by the superstitious—and what Oriental is free from superstition? Thus the greatest buyers are the wealthy high-caste natives, especially the Indian rajahs. They have their agents at every noted gem-mine, who have the picking of all that is found, and who eagerly buy up everything of exceptional value. No really fine gem—fine in an Oriental's eyes—ever goes to Europe or to this country, unless by accident. European traders and their agents cannot, with their paltry offers, compete with the Indian princes, who pay immense sums for fine stones to be set in their crowns, on their fans, their sword-handles, their turbans, their very slippers. European and American dealers have to content themselves with third and fourth-rate specimens, which they palm off as marvels of Oriental finds upon their unsophisticated customers. During my stay in Ceylon the celebrated pearl-fishery near Putalam, on the north-western coast of the island, which had been prohibited for more than thirty years to give the oysters a chance to grow, as they had been nearly exterminated by unscrupulous parties, was resumed for a period of six weeks. During that time more than seven thousand basket-fuls of oysters were brought ashore, and quite a number of agents were on the spot ready to buy the pearls. Only four exceptionally fine pearls were found, which were all secured by the Maharajah of Jeypore, while the European agents had to do the best they could with inferior specimens, deformed, off-color, and seed-pearls.

The value of the gems and pearls possessed by some of these rajahs, and to be found in the treasure-shrines of the temples, is something fabulous. For a long time it was a puzzle to me how these chiefs and priests could have accumulated such immense treasures—for I was tolerably sure that they could not have all been paid for in money or any other equivalent. Finally I discovered the reason. It is well known that the natives of India, especially the Hindoos, are divided into castes. Of these castes there are, among the Hindoos, nominally four, but in reality more than twenty, which are strictly separated from each other in a

social sense, as if surrounded by invisible walls. There are the Sudras, the lowest of all, then the fishermen, jaggery-people, water-carriers, carpenters, and so forth, up to the Rajah. Now the very lowest castes are not allowed to wear any jewels whatever, and from the carpenters up to a certain caste they can only wear inferior stones, such as moonstones, carbuncles, amethysts, garnets, cinnamon-stones, etc., while some of the higher castes are allowed to wear rubies, sapphires and even diamonds up to a certain size, but all highly valued gems above a certain weight go to the Rajah, who alone may wear them, and any infringement of these rules is, or was, severely punished, not long ago even with torture and death. Thus, as a matter of course, the Rajahs obtained possession of all the fine stones found within their domains, at little or no expense. The priests, on the other hand, dominated over the Rajahs; they assisted them in their tyrannical rule by keeping up the illusion of the divine right of kings, pooled with them, and naturally came in for a share of the plunder.